IN THE CLAIMS

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Please amend the claims as follows:

1. (Currently amended) A method of analyzing a sample for the presence of a member of a specific binding pair, the method comprising:

providing a polymeric microsphere having an electroactive molecule ~~marker~~ encapsulated within the polymeric microsphere and a first member of a specific binding pair attached to the polymeric microsphere wherein,

the polymeric microsphere is not a liposome;

introducing a sample suspected to comprise a second element of the specific binding pair complex to the polymeric miscrosphere;

selecting for the polymeric microsphere by formation of a specific binding pair complex in fluid suspension; ~~and~~

releasing the electroactive molecule from the polymeric microsphere with an organic solvent; and

detecting the specific binding pair complex by electrochemical testing for the electroactive molecule ~~marker~~ released from the polymeric microsphere

wherein,

electrochemical testing is via voltammetry or amperometry.

2. (Currently amended) The method of claim 1 wherein the polymeric microsphere is ~~a polymeric microsphere that is~~ insoluble in an aqueous solution.

3. (Currently amended) The method of claim 2 wherein the polymeric microsphere is a polystyrene-based microsphere.

4. (Cancelled)

5. (Currently amended) The method of claim 1, wherein providing comprises incubation of ~~a~~ the polymeric microsphere in an organic solvent including the electroactive ~~marker~~ molecule.

6. (Cancelled)

7. (Currently amended) The method of claim 1 wherein selecting comprises binding of the first member of the specific binding pair attached to the polymeric microsphere and a second member of the specific binding pair attached to a substrate.

8. (Currently amended) The method of claim 7 wherein the first member of the specific binding pair attached to the polymeric microsphere comprises a covalent bond with a functional group on the surface of the microsphere.

9. (Original) The method of claim 7 wherein the substrate comprises a magnetic particle.

10. (Original) The method of claim 1 wherein selecting comprises incubation.

11. (Original) The method of claim 1 wherein the specific binding pair complex is an antigen/antibody, enzyme/substrate, oligonucleotide/DNA, chelator/metal, enzyme/inhibitor, bacteria/receptor, virus/receptor, hormone/receptor, DNA/RNA, RNA/RNA, or oligonucleotide/RNA complex.

12. (Cancelled)

13. (Currently Amended) The method of claim 1 wherein released comprises solubilizing the polymeric microsphere.

14. (Currently amended) The method of claim 1 wherein the electroactive ~~marker~~ molecule comprises a metallocene.

15. (Currently amended) The method of claim 1 wherein the electroactive ~~marker~~ molecule comprises a nanoparticle.

16. (Currently amended) The method of claim 1 wherein the electroactive ~~marker~~ molecule comprises a metal.

17-19. (Cancelled)

20. (Currently amended) A method of analyzing a sample for the presence of two or more analytes, the method comprising:

providing a first microsphere having a first electroactive ~~marker~~ molecule incorporated into the body of the first polymeric microsphere;

providing a second microsphere having a second electroactive ~~marker~~ molecule electrochemically distinguishable from the first electroactive ~~marker~~ molecule encapsulated within the body of the second polymeric microsphere wherein neither the first polymeric microsphere nor the second polymeric micropshere is a liposome;

attaching a first binding pair member specific to a first analyte to the first polymeric microsphere;

attaching a second binding pair member specific to a second analyte to the second polymeric microsphere;

incubating the first polymeric microsphere and second polymeric microsphere in a solution comprising the sample to be analyzed;

selecting for the first polymeric microsphere and second polymeric microsphere by formation of specific binding pair complexes in fluid suspension; and

detecting the specific binding pair with electrochemical testing for the first electroactive ~~marker~~ molecule and the second electroactive ~~marker~~ molecule released from the first polymeric microsphere and the second polymeric microsphere

wherein,

electrochemically detection is via voltammetry or amperometry

21. (Currently amended) The method of claim 20 wherein at least one of the first or second polymeric microsphere is ~~a polymeric microsphere that is~~ insoluble in an aqueous solution.

22. (Currently amended) The method of claim 21 wherein at least one of the first or second polymeric microsphere is a polystyrene-based microsphere.

23. (Currently amended) The method of claim 20 wherein attaching comprises a covalent bond with a functional group on the surface of the polymeric microsphere.

24. (Original) The method of claim 20 wherein the specific binding pair complexes are antigen/antibody, enzyme/substrate, oligonucleotide/DNA, chelator/metal, enzyme/inhibitor, bacteria/receptor, virus/receptor, hormone/receptor, DNA/RNA, RNA/RNA, or oligonucleotide/RNA complexes.

25. (Currently amended) The method of claim 20 further comprising releasing the first electroactive marker from the first polymeric microsphere and the second electroactive marker from the second polymeric microsphere.

26. (Currently amended) The method of claim 20 wherein releasing comprises solubilizing the first polymeric microsphere and the second polymeric microsphere.

27. (Currently amended) The method of claim 20 wherein the first electroactive ~~marker~~ molecule and the second electroactive marker comprise metallocenes.

28. (Currently amended) The method of claim 20 wherein the first electroactive ~~marker~~ molecule and the second electroactive marker comprise nanoparticles.

29. (Currently amended) The method of claim 20 wherein the first electroactive ~~marker~~ molecule and the second electroactive marker comprise metal.

30-32. (Cancelled)

33-40. (Withdrawn)